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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/830,479	08/08/2001	Robert Lindsay Mailler	PIZ-10102/00	8160

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EXAMINER	
TRAN, DALENA	
ART UNIT	**PAPER NUMBER**
3661	

DATE MAILED: 04/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/830,479	MAILLER, ROBERT LINDSAY	
	Examiner	Art Unit	
	Dalena Tran	3661	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 December 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4,6 and 10-12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4,6 and 10-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

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APPLICATION NO./ CONTROL NO.	FILING DATE	FIRST NAMED INVENTOR / PATENT IN REEXAMINATION	ATTORNEY DOCKET NO.

EXAMINER	
ART UNIT	PAPER
	15

DATE MAILED:

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner for Patents

DETAILED ACTION

Notice to Applicant(s)

1. This office action is responsive to the amendment filed on 12/19/03. As per request, claims 1, and 6 have been amended. Claims 5, and 7-9 have been cancelled. Thus, claims 1-4,6, and 10-12 are pending.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-3, and 6, are rejected under 35 U.S.C.103(a) as being unpatentable over Gudat et al. (5,991,694), in view of Keller et al. (6,199,000), and Anderson (5,955,973).

As per claim 1, Gudat et al. disclose a vehicle a vehicle guidance apparatus for guiding an agricultural vehicle over a paddock along a number of paths, the paths being offset from each other by a predetermined distance, vehicle including steering means (see column 11, lines 65-66; and column 12, lines 38-65), apparatus including: a satellite based global positioning system (GPS) receiver for periodically receiving vehicle position data and a radio modem operatively receiving positional correction factor data from a base station to correct periodically received vehicle position data (see column 4, lines 37-55). Gudat et al. do not disclose inertial relative position. However, Keller et al. disclose inertial relative position determining for generating relative positional data signals applicable to time periods between receipt of vehicle position data, relative position determining comprising a number of accelerometers and local speed data

(see column 4, line 55 to column 5, line 3; column 7, lines 3-43; column 10, line 46 to column 11, line 2; and column 11, line 65 to column 12, line 22), processing coupled to the GPS receiver, radio modem and relative position determining , operatively arranged to generate paths based on initial path, processing generating a continuous guidance signal indicative of errors in the position of the vehicle relative to one paths, with position being determined by combining the corrected vehicle position data and the relative position data signals (see column 3, lines 1-20; and column 7, lines 44-67), and controllable steering coupled to processing and selected to guide the vehicle towards paths thereby reducing errors (see column 9, line 60 to column 10, line 6). Gudat et al. do not disclose entry of initial path. However, Anderson discloses data entry facilitating entry of an initial path by an operator and a desired offset distance between paths (see column 8, lines 63 to column 9, line 30; column 11, lines 59-65; and column 12, lines 11-15). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teach of Gudat et al. by combining data entry facilitating entry of an initial path by an operator and a desired offset distance between paths, to provide a heading signal representative of the selected direction of movement of the vehicle follow a desired path.

As per claim 2, Gudat et al. discloses microprocessor is further operatively arranged to provide an indication of the direction of the vehicle relative to a path closest to vehicle (see column 6, line 41 to column 7, line 13).

As per claim 3, Gudat et al. discloses paths are straight parallel lines (see column 12, lines 22-35).

As per claim 6, Keller et al. disclose controllable steering includes a human interface for converting guidance signal to a format indicating error to human operator of vehicle (see column 11, lines 3-25).

4. Claim 4, is rejected under 35 U.S.C.103(a) as being unpatentable over Gudat et al. (5,991,694), Keller et al. (6,199,000), and Anderson (5,955,973) as applied to claim 1 above, and further in view of Keller et al.(6,087,984).

As per claim 4, Gudat et al., Keller et al. ('000), and Anderson do not disclose path are concentric polygons. However, Keller et al. ('984) disclose paths are concentric polygons (see column 5, lines 1-7). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teach of Gudat et al., Keller et al. ('000), and Anderson by combining paths are concentric polygons to for efficiently dispensing chemicals or crop to variety of agricultural fields geometry.

5. Claim 10, is rejected under 35 U.S.C.103(a) as being unpatentable over Gudat et al. (5,991,694), Keller et al. (6,199,000), and Anderson (5,955,973) as applied to claim 1 above, and further in view of Winslow (6,314,348).

As per claim 10, Gudat et al., Keller et al. ('000), and Anderson do not disclose solenoid mechanically coupled to steering. However, Winslow discloses controllable steering includes at least one solenoid mechanically coupled to steering, solenoid responsive to guidance signal (see column 5, line 48 to column 6, line 2). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teach of Gudat et al., Keller et al. ('000), and Anderson by combining at least one solenoid mechanically coupled to steering, solenoid

responsive to guidance signal to provide a balance steering wheel to generate a desired correction.

6. Claim 11, is rejected under 35 U.S.C.103(a) as being unpatentable over Gudat et al. (5,991,694), Keller et al. (6,199,000), and Anderson (5,955,973) as applied to claim 10 above, and further in view of Schutten et al. (4,967,362).

As per claim 11, Gudat et al., Keller et al. ('000), and Anderson do not disclose steerage feedback sensors. However, Schutten et al. discloses steerage feedback sensors operative to generate feedback signals indicative of orientation of steerable wheels or tracks, microprocessor being responsive to steerage feedback signals, and steerage feedback sensors comprise Hall effect device (see the abstract; column 6, lines 54-68; and column 7, lines 23-63). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teach of Gudat et al., Keller et al. ('000), and Anderson by combining steerage feedback sensors to produce an adequate steering control signal for vehicle.

7. Claim 12, is rejected under 35 U.S.C.103(a) as being unpatentable over Gudat et al. (5,991,694), Keller et al. (6,199,000), Anderson (5,955,973), and Schutten et al. (4,967,362) as applied to claim 11 above, and further in view of Travostino et al. (6,400,143).

As per claim 12, Gudat et al., Keller et al. ('000), Anderson, and Schutten et al. do not disclose Hall effect device. However, Travostino et al. disclose steerage feedback sensors comprises Hall effect device (see column 7, lines 4-19). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teach of Gudat et al., Keller et al. ('000), Anderson, and Schutten et al. by combining Hall effect device to instruct the

navigation system, to control the trajectory of the vehicle, and controlling of the position of vehicle.

Remarks

8. Applicant's argument filed on 12/19/03 has been fully considered. Upon updated search, the new ground of rejection has been set forth as above.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dalena Tran whose telephone number is 703-308-8223. The examiner can normally be reached on M-F (7:30 AM-5:30 PM), off every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Black can be reached on 703-305-8233. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-7687 for regular communications and 703-305-7687 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.

/dt
April 1, 2004

TAN Q. NGUYEN
PRIMARY EXAMINER